DOCUMENT RESUME

ED 267 771 IR 012 139

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TITLE Extending Graduate Level Education: A Management Model.
PUB DATE Jan 86
NOTE 11p.; Paper presented at the Annual Convention of the Association for Educational Communications and Technology (Las Vegas, NV, January 16-21, 1986). For entire proceedings, see IR 012 121.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; Audiotape Cassettes; *Audiotape Recordings; Autoinstructional Aids; Business Administration Education; *Distance Education; *Graduate Study; Higher Education; Independent Study; Intermode Differences; *Professional Continuing Education; Professional Development; Research Methodology; *Student Attitudes; Surveys; Teacher Student Relationship
IDENTIFIERS AECT Research and Theory Division Meeting; *Instructional Effectiveness

ABSTRACT

A study was conducted to determine the effectiveness of audiotape cassette technology in delivering professional, graduate-level distance education programs to adult audiences, and to compare this method with traditional classroom instruction. Specific elements of student-teacher rapport, pacing, and attitudes towards the audiotaped course were also analyzed. On the basis of a survey of corporate managers, an MBA course, "Management Philosophy and Style," was selected to be audiotaped and used for the study. Participants included campus students enrolled in the course (with an average attendance of 18) and 15 corporate manager volunteers who received the audiotaped instruction. Preliminary information based on a comparison of the two groups' midterm examinations indicates that distance learners generally achieved higher scores on the examinations than the on-campus graduate students, and that learners reacted positively to the audiotapes, suggesting that there is a potential market for courses of this type, particularly if they are offered for credit. It is noted that this delivery system limits course offering to classes that are not highly interactive--for use in a degree system, a combination of campus and distance learning experiences would be necessary; and that the low cost of production and distribution of this delivery system make it capable of a high degree of profitability. It is suggested that audiotaped courses provide a much-needed option not presently open to most adult learners. Final study outcomes will be available in the summer of 1986. (JB)

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EXTENDING GRADUATE LEVEL EDUCATION: A MANAGEMENT MODEL

by Robert L. Hales & Stephen B. Felt

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Goals and Objectives

Project Goal: To develop a delivery system that is capable of transferring professional, graduate-level education programs having identical content to those presented on university campuses to adult audiences off campus. The model must be inexpensive, flexible, easy to use, and capable of a high degree of educational transfer.

Our original search for technology to facilitate the delivery system included both video and audio formats. Since video cassette players are not universally available, we turned to audio cassette technology. It offered the following advantages for distance education:

1. Universal availability
2. Low cost for players and cassette tapes
3. Portability, ease and convenience of use
4. Independence from broadcast schedules and bad weather
5. Learner control of place and time of information transfer

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We felt that these attributes would be significant in using technology as a bridge to carry courses to distant students and to extend the influence of our most popular and capable faculty.

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A review of the literature indicates that distance education, as provided by the various Open Universities, has been focused at

the undergraduate level. By emphasizing the postgraduate level we are targeting the needs of college alumni who are seeking additional training.

Replacing Interaction with Structure

In the traditional classroom, patterns of interaction exist between teacher and students, and between individual students. When we remove the instructor and other class members from the learning process and incorporate a technological bridge (in this case audio cassettes) we are taking away the interaction and replacing it with structure. We are interested in exploring the effects on learning when the interaction between students and instructor is not present. We are looking for answers to the following questions:

1. How is this type of learning experience going to compare or compete with personal classroom instruction?
2. Will the adult professional be motivated by a prerecorded audiotape of graduate level course work?
3. Will the lack of a regularly scheduled class meeting time influence the students ability to pace themselves.
4. Will the educational value of the course be sufficient to justify offering university credit?

What Research has to say about Rapport and Pacing

Physical proximity of instructor to learner has a causal effect on the learning relationship in at least three ways:

1. Verbal and non-verbal clues facilitate the interpretation of information.

2. Rapport with instructor affects the intensity with which the student participates in the learning process.
3. Pacing, through regular instructor contact, directs effort toward regular achievement.

Audiotapes transfer only the audible clues through modulation. The experimental model and testing data is designed to indicate the effectiveness of the information transfer. In this model the only element of pacing is provided in the deadlines for handing in assignments, and contact with proctors.

Significant to this experiment is our capture of the actual classroom experience on the audiotape rather than a dramatization or special version recorded by professional readers. We think this will add credibility to the course and make it more acceptable to universities.

There is some indication in the literature of rapport being vicariously attributed to the tape. A survey has been created to obtain data on what rapport exists as a result of this course, and what importance the expertise of the instructor may have.

Survey of Experimental Group

In the survey we attempt to evaluate specific elements of rapport, pacing, and attitude towards the course as shown in the following questions:

1. Do you see this course as being helpful in your current employment or future career? Explain.

2. What is your evaluation of the expertise of the instructor?
3. Would regular contact with the instructor have motivated you to complete assignments sooner? Explain
4. Did the taped version of the course offer any advantages over your past experience in a class room setting?
5. Would a more structured course with dates given for the completion of each lesson and assignment be helpful?

After reviewing the available research in the area, we will now move on to our research design and preliminary findings.

Research Design

This research was undertaken with the object of finding a delivery system that can provide high-quality instruction to the twenty three million college graduates currently living in the United States. Many of these people wish to continue their education but are hindered by rigid university standards which require residency in daytime campus programs. For those individuals who are working during the day there are few, if any, options open for graduate-level education. If a delivery method can be found for distance learners that will maintain the quality and the academic content of the day school campus class, the universities may be influenced to allow credit for these courses and thus meet a great need of their alumni.

To guarantee the academic quality and content of the course we

felt that it was necessary, so far as was possible, for the distance learner to have the same academic experience as the on-campus student had. We theorized that if this could be properly done, the motivation and additional experience of the off-campus learners might compensate for any disadvantages in the delivery system. After some deliberation it was concluded that an audiotape transcription of the day class might meet this requirement. The tape can deliver all of the instruction and student input that takes place. Everything that the day student hears in the class will be conveyed in identical language to the distance learner.

Our next step was to allow for the visual information. We planned to accomplish this by having a class member carefully copy all of the static visuals used in the class. The chalkboard and overhead projector are most commonly used for visual-instructional support at the university. Copies of the visuals used will be included with the class hand outs in a student syllabus. Headings and lesson numbers on each visual will match it with the appropriate lesson.

Next we needed to select a course to tape. A survey was made to ask local high-level corporate managers which graduate courses from the School of Management's catalog they felt would have the greatest value for management-level personnel in their organizations. An MBA course which was highly ranked in the survey was selected. Titled "Management Philosophy and Style", it was

taught by a thirty year veteran professor who had recently been the Dean of the School of Management at BYU. Permission was obtained to audiotape the course during the next semester.

We talked to the instructor and learned the course content and requirements. Then we were ready to develop a research design. Professional help was obtained from a faculty consultant in the Statistics Department. He suggested that we compare the test results from both the midterm and the final exams taken by the campus students with the same exams taken by the off-campus group. Since graduate courses usually have smaller enrollments than the undergraduate classes, we decided to use a T-test for comparisons. A box plot is also planned to assist us in further examining the data. We will keep copies of all of the tests before they are graded. Then, after deleting all names or identifying information from each test we will assign it a number. The tests will all be corrected at the same time by one grader who has been trained for this assignment by the instructor. This person will have no way of identifying either the student who wrote the test or the group to which that student belongs while the tests are being graded. The identifying numbers will be used to separate the two groups scores for the statistical comparison.

Conducting the Experiment

With the design in place we now proceeded to tape the course. A good quality reel to reel recorder was used. We used a two track

recording system with a lavalier mike on the instructor and two additional mikes on stands in the room to pick up student input. The taping went well except for the background noise we picked up from the classroom mikes on one of the tracks. We had an average attendance of eighteen students in the course. An observer in the classroom copied all of the visual information used in the class for the student syllabus. He also took notes on student attendance, the number of students who asked questions or participated in class and other items of this nature. The instructor relied on the chalkboard exclusively and no films, slides or transparencies were used.

After completing the taping we decided to make two versions of the course. The first version would contain the entire course with all of the lectures, class discussion and group sessions. The other version would have the student comments, questions and group discussion sessions edited out. In this way we hope to determine whether or not the student interaction is a valuable part of the course for the distance learner. We edited out as much of the background noise as we could. At the end of this process we had two versions of the course available in three different formats; the reel to reel format, the standard cassette format, and a special slow speed format selected because it gave us the advantage of putting the whole 30 hour course on three cassettes. Now we needed a test audience.

We explained our project to training directors and two corporat-

ions agreed to furnish us some management-level volunteers, randomly selected to take the course. We ended up with fifteen students for the first trial. Each one was asked to recommend a proctor to give them the exams and to send us the information necessary to make the test arrangements. Students were given the same information and course requirements that the campus class received. Added to their instructions was a brief explanation on how to use the special long play recorder that was included in the course package. The students were given a schedule of when the testing periods would be and when assignments were due. Tests will be mailed out to a proctor at the company who will administer the tests and return them to us.

The experimental course is now underway with a small group of students. We are beginning to get the data back. We have received the midterm examinations from most of our test group. These papers are being graded by a competent grader and returned in order that the students can get feedback from their work. This preliminary information is helpful in making some early predictions. The research data for the statistical model will come from a second grading of the tests done later by a different grader. Because of the small sample we are dealing with, we recognize that the results that we obtain are not conclusive. We expect to gather data from many more students to give validity to the study.

Preliminary Findings

The limited information that we currently have suggests the following:

1. Distance learners in this study will generally achieve higher scores on the examinations than the graduate students who took the course on campus. Their field experience has given them a depth and breadth that doesn't show up in the university student's tests.

2. Information from the distance learners indicates that if this course could be offered for university credit, it would be of interest to more people and provide a greater motivation for the participants to complete it. We have received several expressions from people saying that this method of distance learning provides exactly what they have been looking for to further their education and their career. This suggests a market for courses of this type particularly if universities will make them available for credit.

3. The delivery system involved here limits the course offerings to classes that are not highly interactive. If this delivery system were to be used in a degree program, a combination of both campus and distance learning experiences would be desireable. Further studies are planned to determine if this delivery system, coupled with videotapes, can successfully convey the educational content for courses requiring laboratory experiences.

4. With some testing and modification, this model has the potential to meet the needs of many adult learners. It could create a significant market for those universities and colleges who chose to incorporate it as an alternative in their graduate course offerings.

5. The low cost of production and distribution of this delivery system make it capable of a high degree of profitability in the event it adequately meets the expectations previously described.

While there are many ways of extending professional distance education courses to adult audiences, this one has the potential of receiving university approval for credit. We hope that it will provide a much-needed option not presently open to most adult learners.

Note: The data from this research will be available in the early spring of 1986 and the outcomes of the study should be ready soon afterwards. For a copy of this information send $2.50 to cover postage and handling to:

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